

Appendix MGS-3 Mohave Ground Squirrel Management Prescriptions (Long Version)

TABLE OF CONTENTS

Page A3-

Background	1
Urbanization and Development	3
Construction Activities	5
Off-Highway Vehicle Recreation	7
Military Operations	9
Agriculture	10
Utility Corridors	11
Fire Suppression	12
Sheep and Cattle Grazing	13
Subsidized Predation	15
Mineral Development	15
Non-Off-Highway Vehicle Recreation	16
Invasive Weeds	17
Commercial Uses	17
Wild Horses and Burros	18
Drought (Relative to MGS Studies)	18

Background

In March 1998, November 1999, and May 2000 the West Mojave Plan team met with representatives of the U.S. Fish and Wildlife Service (Service; Ray Bransfield) and California Department of Fish and Game (Department; Glenn Black, John Gustafson, Frank Hoover, Becky Jones, Rocky Thompson) (collectively, the “evaluators”) to discuss management prescriptions for the conservation of the Mohave ground squirrel (MGS). Potential MGS management prescriptions were derived, in part, using Dr. William Boarman’s threats analysis for the tortoise, in which he identified 22 threats. Evaluators for the MGS determined that 14 threats affecting tortoises also likely affected the MGS, and that about half of the management prescriptions identified to address those threats would also benefit MGS conservation.

In the following table, we list each of the 22 threats and its expected effect, if any, on the MGS (see also the Threats Matrix at the beginning of Appendix MGS-2).

Table 1. Effects of 22 threats on the Mohave ground squirrel.

<u>Threat</u>	<u>Would Affect MGS</u>	<u>Would Not Affect MGS</u>
Urbanization & Energy Development	Yes	-
Disease	-	Unknown Effect
Construction	Yes	-
Off-Highway Vehicles	Yes	-
Landfills & Transfer Stations	-	Unknown Effect
Military Operations	Yes	-
Roads/Highways/Railroads	Yes	-
Agriculture	Yes	-
Utility Corridors	Yes	-
Fire	Yes	-
Livestock Grazing	Yes	-
Subsidized Predation	-	Unknown Effect
Mineral Development	Yes	-
Non-OHV Recreation	Yes	-
Invasive Weeds	Yes	-
Garbage & Litter	-	Unknown Effect
Noise	-	Unknown Effect
Commercial Uses	Yes	-
Vandalism	-	No
Handling & Manipulation	-	No
Wild Horses & Burros	-	Unknown Effect
Drought	Yes	-

As given above, the evaluators concluded that only 14 of the 22 threats documented as affecting tortoises are also expected to affect the MGS. No additional threats were identified. However, one must remember that the known range of the MGS is found entirely within the planning area. That the MGS is restricted to such a relatively small area, much of which has been lost to urbanization and agricultural development, poses a significant threat to the species.

It is relatively clear that Disease, Vandalism, and Handling & Manipulation are threats that affect tortoises that do not affect the MGS (although some unknown disease could be involved). We assume that subsidized predation - mostly common raven predation on tortoises - is not likely to be an issue relative to the MGS. We expect that Landfills & Transfer Stations and Garbage & Litter are less a threat to the MGS than to the tortoise, again because raven predation affects tortoises and has not been documented for the MGS. Therefore, in this appendix, we have eliminated management prescriptions identified relative to tortoises for the following threats: Disease, Landfills & Transfer Stations, Subsidized Predation, Garbage & Litter, Noise, Vandalism, Handling & Manipulation, and Wild Horses & Burros.

There are critical differences between the proposed Tortoise Desert Wildlife Management Areas (Tortoise DWMAs) and the proposed MGS Conservation Area as described below. For tortoises, there are large Tortoise DWMAs that encompass essential habitats that were based, in part, on Critical Habitat designated by the Service in 1994. Since the MGS is not federally listed, no critical habitat has been identified for this species.

In 1992 and 1993, MGS experts, including agency biologists, identified 18 habitat polygons that, to them, represented essential habitat for MGS conservation. That team identified nine polygons of "High Quality

Habitat” and nine polygons of “Medium Quality Habitat.” During the 1998 evaluations, there was a consensus that insufficient information was available to differentiate habitat quality, and that the 18 polygons would not likely be sufficient to conserve the MGS. The MGS Conservation Area as currently proposed captures what the agency biologists consider to be the remaining, unfragmented habitats that are necessary to conserve the MGS, assuming that adequate management prescriptions are implemented.

Considerably more information is included in this appendix than in either of the other two MGS appendices (MGS-1, “Short Version” and MGS-2, “Tabulated Version”). For example, this is the only appendix in which we identify “Applicable” and “Non-applicable Jurisdictions” relative to each threat and proposed management prescriptions. Background information is provided to better understand how each management prescription relates to the threat it is designed to offset.

Each management prescription is preceded by a bullet (●) and a number. The numbers in parentheses are the same as those given in the previous tortoise evaluation and in other MGS appendices. Since the inapplicable prescriptions have been deleted from this appendix, the prescription numbers are not continuous (i.e., there are “missing” numbers). As with the other appendices, measures that have been identified or substantially modified since their original inception in 1998 are tagged with “200.”

Urbanization and Development

Associated Threat: Urbanization and Development

Goal Statement from USFWS/CDFG: Establish guidelines for growth that facilitates long-term conservation of the MGS. Institute a mitigation fee program that partially funds conservation.

Applicable Jurisdictions: Adelanto, Apple Valley, Barstow, California City, Hesperia, Lancaster, Palmdale, Ridgecrest, Victorville, Inyo County, Kern County, Los Angeles County, San Bernardino County, Indian Wells Valley Water District, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, Bureau of Land Management, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, and Edwards Air Force Base.

Non-applicable Jurisdictions: City of Twentynine Palms, Yucca Valley, Joshua Tree National Park, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

Management Areas and Land-Use Designation

- 1, 200. The evaluators recommend that a conservation area be established for the long-term survival and protection of the MGS. This MGS Conservation Area should include portions of the Fremont-Kramer and Superior-Cronese Tortoise DWMA and additional, essential habitats located west and north of the Tortoise DWMA. All other areas would either be managed by the military or be available for incidental take subject to restrictions identified during the planning process.
- 200. Biological Transition Areas (1) should be established within one mile of the MGS Conservation Area; (2) would be available for incidental take; (3) should function to minimize impacts on the adjacent conservation area, which may call for higher development standards (i.e., more protective mitigation measures) than in other take areas; and (4) may require special review of proposed projects by the Plan’s Implementation Team.
- 200. An area of northeastern Los Angeles County should be designated for no zone change; existing zoning would apply to the area for the term of the Plan (expected to be 30 years). The approximate area (pending public input) is bounded to the west by Big Rock Creek, to the north by Edwards Air Force Base, to the east by the Los Angeles-San Bernardino County line, and to the south by the boundary of the planning area. This

area is herein referred to as the “Los Angeles County Zone Maintenance Area.”

- 200. Trapping studies should be undertaken in the northern portion of Antelope Valley in Kern County. If these studies reveal that MGS occur, existing zoning should be maintained for the remaining term of the Plan. If the genetic make-up is determined to be significantly different from that of other MGS in the planning area, the area should be considered for conservation-area status or other protection more restrictive than that provided by existing zoning. Herein, this area (yet to be delineated) is referred to as the “Kern County Study Area.”

- 9. & 10. Multiple Use Classes identified in the CDCA Plan should be Class L or C (existing Wilderness) in the MGS Conservation Area. Recommend that the MGS Conservation Area should be designated as an Area of Critical Environmental Concern (ACEC) for protection of the squirrel.

Funding and Fee Structure

- 3. & 4. The public needs to decide on an appropriate fee structure. Evaluators suggest that fees be relatively higher in the MGS Conservation Area and relatively lower in Biological Transition Areas and other take areas.

- 5. Identify construction types and locations that would be exempt from fees or other mitigation; consider single-family scenario versus commercial, industrial, high density development (determine dichotomy or variable approach to fee requirements).

- 6. Discuss mechanism for other funding sources, so that fees are not only based on new development and ground disturbance.

- 25. Discuss mitigation and compensation strategies for projects in all management areas that would discourage but not prevent development inside the MGS Conservation Area. One example may be variable compensation: mitigate 1:1 outside the MGS Conservation Area and 10:1 inside.

Education

- 7. The Plan could develop a curriculum on environmental education (or identify agencies to do this) that can be presented to school districts.

Background Information:

1. and 200. Approximately 22% of the central portion of the MGS’ known range has been proposed for tortoise conservation in the Fremont-Kramer and Superior-Cronese Tortoise DWMAs. Evaluators felt that habitats in the southern, northern, and western portions of the MGS range were not adequately protected in these tortoise conservation areas. They therefore recommended extensions of the MGS Conservation Area to the north and west, and a zone maintenance area in northeastern Los Angeles County to protect the southern portion of the range. Management of the entire MGS Conservation Area would ostensibly protect about 39% of the MGS range (appropriate military management would protect additional areas as long as current missions are not substantially changed). Currently, though not reflected in the above prescriptions, there is a recommendation that the Plan allow ground disturbance on no more than 1% of the MGS Conservation Area. Focused trapping studies were recommended in the far western portions of the range (northern Antelope Valley, in Kern County) to see if the MGS occurs there. If so, measures are recommended that would help to protect those genetically important animals. A Biological Transition Area (BTA) concept, similar to that identified for the tortoise, is recommended to be established within one-mile of pertinent boundaries of the MGS

Conservation Area. The BTA would function, in part, to minimize indirect impacts of development on the adjacent conservation areas.

3. and 4. The ultimate goals of the fee structure may include (a) collect sufficient funds to allow for implementation of the MGS conservation portion of the Plan, including scientific study and land acquisition; (b) discuss the nexus between the fees being collected and the conservation measures to be implemented; (c) recommend that fees be relatively higher in the MGS Conservation Area and relatively lower in other areas.

5. Some fee-exempt projects may include: (a) projects located on land on which the habitat has already been permanently lost, including fully developed parcels; (b) projects located on parcels, or portions of parcels, for which MGS habitat mitigation fees have already been paid; (c) maintenance activities within existing utility easements or rights-of-way unless suitable habitat would be impacted; (d) changes in land-use on developed property (but not including conversion of agricultural lands); (e) additions to existing non-single-family residential buildings not exceeding 2,500 square feet in gross ground floor area; (f) tenant improvements; (g) repair and replacement of existing structures, damaged by natural or human causes, with no increase in floor area; and (h) project proponent election to protect appropriate habitat (i.e., in the MGS Conservation Area) in lieu of a mitigation fee. See section 2.1.6.1. on page 2-23 of Draft 3 for previous recommendations.

6. The intent here is to identify other income sources so that the Plan is not solely dependent on developer fees. Some sources may include State, federal, appropriated funds, grants, or contributions.

7. The purpose of the education program would be, in part, to inform the public about the effects of urbanization and development on the MGS. Organizations with existing education programs (mostly for tortoises) include Edwards Air Force Base, Desert Tortoise Preserve Committee, State Parks and Recreation, BLM, and San Bernardino County Museum.

9. & 10. It is the evaluator's recommendation that public lands within the MGS Conservation Area be identified as Multiple Use Class L and C (where existing Wilderness occurs) and be newly designated as an ACEC for the ground squirrel and other affected species.

25. Aspects of this prescription are discussed in points 3., 4., 5., and 6. Again, the goal is to discourage impacts in the MGS Conservation Area.

Construction Activities

Associated Threat: Construction Activities

Goal Statement from USFWS/CDFG: Minimize disturbance and loss of habitat and incidental take of the MGS.

Applicable Jurisdictions: Adelanto, Apple Valley, Barstow, California City, Hesperia, Lancaster, Palmdale, Ridgecrest, Victorville, Bureau of Land Management, Inyo County, Kern County, Los Angeles County, San Bernardino County, and Indian Wells Valley Water District.

Non-applicable Jurisdictions: State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, Twentynine Palms, Yucca Valley, Joshua Tree National Park, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, Edwards Air Force Base, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

Surveys

- 18., 19., 21., & 23. Under the proposed conservation strategy, the Department would not require Cumulative Human Impact Evaluation Forms (CHIEFs) to be completed, nor would trapping be required. A brief site visit to determine if compensable habitat would be lost to a given project may be appropriate.

Mitigation

- 26. Consider dichotomy between permanent impacts (solar power plant, facilities development, etc.) versus

intrusive but temporary impacts (pipelines, fiber optic cable, etc.). Pipelines within the MGS Conservation Area should be revegetated; revegetation is recommended within Biological Transition Areas but not in other take areas.

- 27. Rather than focus on what will and will not be allowed, define general criteria: permanent versus temporary impacts, single time impacts (e.g., pipeline booster station) versus ongoing impacts (solar plant employing 100 workers) and discuss management prescriptions that would apply.
- 28. Plan should develop standard mitigation measures for ground-disturbing construction projects, such as (a) pipelines, (b) parcel development, (c) mines, (d) highway construction and maintenance, etc. Plan would develop standard measures for ground-disturbing construction projects, such as (a) pipelines, (b) parcel development, (c) mines, etc.

Implementation Team

- 29. The West Mojave Implementation Team should be created to assist in carrying out project-specific measures for projects in the MGS Biological Transition Areas to ensure that the project's indirect impacts do not adversely affect protection of the MGS in adjacent conservation areas.
- 30. The Service plans on providing at least two full-time people stationed in Barstow to implement the Plan and assist with and monitor on-the-ground compliance.
- 31. The Department will consider the feasibility of providing permanent, dedicated position(s) towards implementation of the Plan and on-the-ground compliance.

Background Information:

18. - 23. Under current management, a habitat analysis or trapping may be required, including a data base search, to determine if the MGS may be affected by a given project. Neither trapping nor habitat evaluations, referred to as CHIEFs, would be required under the current proposal. A site visit by the Implementation Team may be appropriate to determine if the project is exempt from mitigation. Site visits would not be required for jurisdictions outside the MGS range (e.g., Twentynine Palms, Yucca Valley, portions of San Bernardino County outside the range).

26. The intent here is to discuss potential differences in mitigation for permanent versus temporary impacts associated with different project types. For example, the affected public (Steering Committee, Task Groups, and Supergroup) may decide that temporary impacts associated with linear projects (pipelines, fiber optic cables, etc.) should have a revegetation component in the MGS Conservation Area but not in take areas. Variable mitigation measures may be described relative to the following project types: (a) mines, (b) tract home development, (c) new roads and travel ways, (d) pipelines, (e) transmission lines (above-ground, linear projects), (f) fiber optic cables (underground, linear projects), (g) temporary use permits, as for commercial filming, (h) landfills, (i) hazardous waste disposal and clean up, (j) flood control projects, etc. For these examples, a, d, e, f, and g are considered (in the long term) temporary impacts, whereas b, c, h, and j are considered permanent impacts.

27. and 28. The evaluators agreed that it would be best to define standard mitigation measures to be applied programmatically to particular development projects within the proposed management areas (MGS Conservation Area versus Biological Transition Area versus incidental take areas). Standard measures have been published in several hundred USFWS biological opinions. For example, typical mitigation measures for a proposed pipeline may include (a) minimize project impacts to the smallest practical area; (b) an education program will be presented to all construction workers prior to construction to minimize impacts to animals and

habitat; and (c) all vehicle staging areas will occur in previously disturbed areas or the biological monitor will work with the project supervisor to determine a location that will result in the fewest impacts to animals and their habitat. The evaluators can provide a list of these measures if asked to do so.

29. - 31. The USFWS has confirmed that it will employ two, full-time positions to implement the Plan; the CDFG is also considering providing staff. The affected public should discuss the function of the Implementation Team. The evaluators anticipate that these or other designated individuals could be responsible for reviewing proposed projects, keeping track of development and the amount of MGS habitat affected in a given management area, and serving as an advisory group to project developers.

Off-Highway Vehicle Recreation

Associated Threat: Off-Highway Vehicles

Goal Statement from USFWS/CDFG: In the MGS Conservation Area, minimize creation of new roads and trails; rehabilitate closed routes; and enforce use of designated route network. Minimize impacts from BLM open areas on adjacent portions of the MGS Conservation Area.

Applicable Jurisdictions: San Bernardino County, Inyo County, Los Angeles County, Kern County, Indian Wells Valley Water District, and Bureau of Land Management.

Non-applicable Jurisdictions: Adelanto, Apple Valley, Barstow, California City, Hesperia, Lancaster, Palmdale, Ridgecrest, Twentynine Palms, Victorville, Yucca Valley, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, Joshua Tree National Park, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, Edwards Air Force Base, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

- 32. Consider impacts of applicable open areas, which include El Mirage, Spangler Hills, and Jawbone Canyon, and determine measures to minimize impacts.
- 36. Increase the frequency of BLM ranger patrols in the MGS Conservation Area at sites where prohibited activities are identified.
- 38. No vehicles should be allowed off designated routes in the MGS Conservation Area.
- 39. No racing should be allowed in the MGS Conservation Area.
- 40. Dual Sport events would be allowed year-round in non-MGS Conservation Areas, and only seasonally in the MGS Conservation Area; Dual Sport events in the MGS Conservation Area would be allowed in the period of September through December only; the prescriptions given in the biological opinion for tortoises should apply.
- 41. Limited speed travel on designated, signed routes should be allowed in the MGS Conservation Area.
- 42. Closure of routes as determined for route designation should be implemented.
- 44. Work with OHV groups (AMA, CORVA, etc.) to establish meaningful education brochures and mechanisms to discourage cross-country travel.
- 45. Travel in washes in the MGS Conservation Area should only be allowed in those washes that are signed

as “open.”

- 200. There should be no new open areas in the MGS Conservation Area.

Background Information:

32. & 33. Evaluators agreed that the Spangler Hills and Jawbone Canyon Open Areas should not be within the proposed MGS Conservation Area, and no open area boundary modifications are proposed. Impacts associated with the El Mirage Open Area may affect conservation provided at Edwards Air Force Base; similarly, vehicles traveling north out of Jawbone Canyon may affect that proposed management area. Evaluators recommend that the affected public consider ways of minimizing OHV impacts on adjacent portions of the MGS Conservation Area.

36. There are areas, such as between Highway 395 and Helendale, that are proposed as part of the MGS Conservation Area (and Tortoise DWMA) that are currently being significantly affected by cross-country off-highway vehicle travel. Once prescriptions are in place for the MGS Conservation Area (including restriction of vehicles to existing roads), increased ranger patrols could help to enforce these prescriptions. The evaluators understand that ranger patrols, as opposed to law enforcement personnel, are better suited to enforce management prescriptions and inform the public in a meaningful way about resource conservation in a given area. Such ranger patrols should be dedicated to protecting biological resources (100% of their time) rather than conducting drug enforcement actions, for example. The evaluators recommend that several ranger positions be funded by the Plan.

38. Recreation and resource personnel of the BLM’s Barstow and Ridgecrest Resource Areas, in conjunction with the affected public, are currently identifying a proposed OHV route network for the West Mojave planning area. Regardless of the final route designation, the evaluators firmly believe that travel off of designated routes (excepting designated open areas) should **not** be allowed, as it is contrary to some of the management prescriptions proposed for MGS conservation.

39. “No racing in The MGS Conservation Area” refers to sanctioned or otherwise organized races requiring approval of an agency, usually the BLM, for them to occur. Under this prescription, no such races would be allowed in the MGS Conservation Area.

40. Under this prescription, dual sport events would be allowed throughout the year, as otherwise regulated, outside the MGS Conservation Area, and only during the fall and winter inside the MGS Conservation Area.

41. This recommendation is consistent with other prescriptions recommended by the evaluators for the management of the MGS Conservation Area.

42. Route designation is being completed by the Barstow and Ridgecrest field offices of the BLM, in conjunction with public input. The proposed MGS Conservation Area has been provided to the BLM to assist them in designating routes.

44. Given their knowledge and experience with many OHV areas in the desert and elsewhere, AMA, CORVA, Honda Motor Corporation, and other groups should be asked to produce meaningful educational materials to make vehicle users aware of vehicle impacts affecting the desert. Existing monthly or quarterly newsletters could inform their membership of the planning process and ask for participation in implementing and managing Plan prescriptions relative to vehicle use in the desert. Green Sticker money should continue to be used for education, monitoring, route restoration, and trail-use management.

45. Under this prescription travel in washes would only be allowed for those routes in washes that are signed as “open.”

200. The evaluators, particularly CDFG personnel, do not want new OHV open areas in the MGS Conservation Area.

Military Operations

Associated Threat: Military Operations

Goal Statement from USFWS/CDFG: Establish guidelines for operations that are compatible with conservation of the MGS. Recognize management area boundaries within each base that compliment those outside.

Applicable Jurisdictions: China Lake Naval Air Weapons Station, Fort Irwin National Training Center, and Edwards Air Force Base.

Non-applicable Jurisdictions: Adelanto, Apple Valley, Barstow, California City, Hesperia, Lancaster, Palmdale, Ridgecrest, Twentynine Palms, Victorville, Yucca Valley, Inyo County, Kern County, Los Angeles County, San Bernardino County, Indian Wells Valley Water District, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, Joshua Tree National Park, Bureau of Land Management, Marine Corps Air Ground Combat Center at Twentynine Palms, and Marine Corps Logistics Base at Nebo/Yermo.

- 53. Request (with help from the evaluators, if asked) military bases to provide information (including management zone boundaries) for analogous management areas on Edwards Air Force Base, China Lake Naval Air Weapons Station, and Fort Irwin (including Goldstone Deep Space Communications Complex) with those designated outside; (b) consider areas included in China Lake's biological opinion; (c) consider Edwards' INRMP and enforce biological opinions; etc.
- 54. Applicable management prescriptions given in military INRMPs, biological opinions, etc. that would result in the conservation of MGS should be adopted and endorsed by the West Mojave Plan; specific management zones have been delineated for Edwards and China Lake.
- 56. Develop specific mitigation measures for specific project types (pipelines, road-widening, etc.) that would be used inside and outside the bases.

Background Information:

53. - 55. The Plan team has already met with each of the environmental managers of the five military installations (collectively referred to as the PACIDERM) and individually with Edwards Air Force Base, China Lake, and Fort Irwin. The evaluators understand that Edwards is managing natural resources under existing USFWS-issued biological opinions and an Integrated Natural Resource Management Plan (INRMP). The INRMP identifies areas, comprising most of Edwards' undeveloped lands (i.e., excluding cantonment areas, military research areas, and dry lake beds) for resource management. The evaluators have referred to these INRMP management areas, which are entirely within the MGS range, as the "Edwards Management Area." China Lake's and Fort Irwin's analogous documents have yet to be completed, although both installations are currently protecting habitats occupied by the MGS. Conservation areas at China Lake that benefit MGS include the +/- 312-square-mile Tortoise Management Area along the southern and eastern boundaries. The southern-most portion of Fort Irwin, south of the UTM 90-grid line (western +/- 18 square miles), and Goldstone Deep Space Communications Complex (44 square miles) are currently off-limits to base maneuvers.

56. With a few modifications relative to base management, the following discussion is a reiteration of prescription 28. Under prescription 56, the affected public, including military representatives, would develop standard mitigation measures to be implemented for all different project types expected within the planning area. The bases could adopt these measures. Standard mitigation measures have been published in several hundred USFWS biological opinions. For example, typical mitigation measures for proposed pipelines have included (a) minimize project impacts to the smallest practical area; (b) an education program will be

presented to all construction workers prior to construction to minimize impacts to animals and habitat; and (c) all vehicle staging areas will occur in previously disturbed areas or the biological monitor will work with the project supervisor to determine a location that will result in the fewest impacts to animals and their habitat.

Agriculture

Associated Threat: Agriculture

Goal Statement from USFWS/CDFG: Establish guidelines for agriculture that are compatible with conservation of the MGS and its habitats. Institute a mitigation fee program that partially funds conservation.

Applicable Jurisdictions: Adelanto, Apple Valley, Barstow, California City, Hesperia, Lancaster, Palmdale, Ridgecrest, Victorville, Bureau of Land Management, Inyo County, Kern County, Los Angeles County, San Bernardino County, and Indian Wells Valley Water District.

Non-applicable Jurisdictions: Twentynine Palms, Yucca Valley, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, Joshua Tree National Park, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, Edwards Air Force Base, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

- 79. Under the proposed conservation strategy, the CDFG would not require Cumulative Human Impact Evaluation Forms (CHIEFs) to be completed, nor would trapping be required. A brief site visit to determine if compensable habitat would be lost to a given project may be appropriate. (This prescription is taken, verbatim, from prescriptions 5., 18., 19., 21., & 23.).

- 80. Loss of native habitat to new agriculture should be compensated by paying appropriate fees, restoring appropriate agricultural areas, or implementing other, appropriate compensation measures. Recommend discouraging new agriculture in the MGS Conservation Area.

Background Information:

79. The evaluators' recommendations are given in prescriptions 18., 19., 21., & 23., which are reiterated as follows: "Under the current management situation, a habitat analysis is required, including a data base search, to determine if the MGS may be affected by a given project. CHIEFs (see prescription, above) are no longer used; trapping may be required on a case-by-case basis if the proponent does not choose to assume MGS presence and pay applicable fees. As per prescription 5., there may be certain sites for which project development will not require mitigation. If this prescription is applied to the MGS, a site visit may be required to determine if the project is exempt from mitigation fees or not. Such surveys would not be required for jurisdictions outside the range (e.g., Twentynine Palms and Yucca Valley).

Under the proposed scenario, no trapping would be required for any projects. Instead the proponent would pay the applicable fee to compensate impacts. We expect a dichotomy in the fee structure: inside versus outside the MGS Conservation Area, with fees being relatively higher inside the management area. For many proponents, this scenario would be much less costly than trapping. It would also clearly identify the appropriate mitigation fee for each project as part of the planning process.

80. This prescription would only be applicable to the MGS Conservation Area where agriculture is likely to occur. Given the importance of the MGS Conservation Area to ground squirrel protection, the affected public should consider fees (or other alternatives, such as restoring habitat elsewhere in the MGS Conservation Area) for agricultural impacts. New agriculture should be discouraged.

Utility Corridors

Associated Threat: Utility Corridors

Goal Statement from USFWS/CDFG: Minimize direct impacts associated with construction and maintenance of utility corridors and indirect impacts associated with their presence (i.e., habitat fragmentation, support of non-native vegetation, etc.).

Applicable Jurisdictions: Adelanto, Apple Valley, Barstow, Hesperia, Lancaster, Palmdale, Victorville, California City, Ridgecrest, Inyo County, Kern County, Los Angeles County, San Bernardino County, Indian Wells Valley Water District, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, and Bureau of Land Management.

Non-applicable Jurisdictions: Twentynine Palms, Yucca Valley, Joshua Tree National Park, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, Edwards Air Force Base, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

- 82. Contingent corridors, identified in the CDCA Plan, should not be activated within the MGS Conservation Area.
- 86. Within the MGS Conservation Area, management prescriptions should be applied equally on public and private lands (e.g., if required, revegetation would occur on both public and private portions of a given pipeline).
- 87. Maintenance of existing utilities should be allowed and should require minimization of impacts to the MGS and its habitats; all maintenance activities should remain on existing access roads except for the point location of maintenance-related disturbance.
- 88. Evaluators recommend supporting the CDCA designation and use restrictions for utility corridors (Reflects Current Management).
- 89. All pipeline alignments within the MGS Conservation Area should be revegetated; narrowing the ROW impact should be required.
- 90. Within existing corridors, attempt to use areas that are already disturbed rather than disturbing new areas within the two to three mile corridor.

Background Information:

82. This prescription is mostly applicable to the BLM, which in the 1980 CDCA Plan identified contingent corridors. Under this prescription, contingent corridors running through the MGS Conservation Area would not be activated. The evaluators consider that creation of a new utility corridor through the MGS Conservation Area would constitute unacceptable habitat fragmentation, and could result in increased mortality along roads, further introduction of non-native weeds, increased fire potential, and new vehicle access.

86. The intent here is to ensure that project proponents are treated equally, insofar as possible, for project development on public versus private lands.

87. & 88. These standard requirements are part of the Current Management Situation for Edison and other utility companies, and would be a future requirement of maintenance activities for new and existing utility lines. In stating the above prescription, the agencies are endorsing existing regulations (CDCA Plan) for utility corridors, which are listed below: (a) minimize the number of separate rights-of-way by utilizing existing rights-of-way as a basis for planning corridors; (b) encourage joint use of corridors for transmission lines, canals, pipelines, and cables; (c) provide alternative corridors to be considered during processing of applications; (d) avoid sensitive resources whenever possible; (e) conform to local plans whenever possible;

(f) consider wilderness values and be consistent with final wilderness recommendations; (g) complete the delivery-systems network; (h) consider on-going projects for which decisions have been made; and (i) consider corridor networks which take into account power needs and alternative fuel resources.

89. & 90. These prescriptions follow current management where revegetation has been a required mitigation for temporary impacts associated with construction of linear projects (pipelines, underground cables, transmission lines, etc.). Where possible, it is best to use areas of existing disturbance that have not been revegetated for the right-of-way (shoulders of existing, paved roads are an excellent example). What constitutes appropriate revegetation still needs to be defined. One or more of the following techniques has been used with variable success: imprinting with and without seed, with one versus many seed species, and with and without mycorrhizal inoculation; using vertical mulching to effectively conceal a road identified for closure; salvaging cacti and other tree (usually *Yucca*) species.

Fire Suppression

Associated Threat: Fire

Goal Statement from USFWS/CDFG: Minimize disturbance related to fires and suppression.

Applicable Jurisdictions: Adelanto, Apple Valley, Barstow, Hesperia, Lancaster, Palmdale, Victorville, California City, Ridgecrest, Inyo County, Kern County, Los Angeles County, San Bernardino County, Indian Wells Valley Water District, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, and Bureau of Land Management.

Non-applicable Jurisdictions: Twentynine Palms, Yucca Valley, Joshua Tree National Park, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, Edwards Air Force Base, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

- 91. Wildland fire management should be allowed in all management areas.
- 92. Fire suppression should be a mix of aerial attack with fire retardant, crews using hand tools to create firebreaks, and mobile attack engines limited to public roads and designated open routes.
- 93. Use of earth-moving equipment or vehicle travel off public roads and designated open routes should not be allowed except in critical situations where needed to protect life and property.
- 94. Incoming fire crews unfamiliar with habitat protection should receive an awareness program to minimize impacts.
- 95. Post-suppression mitigation should include rehabilitation of firebreaks and other ground disturbances using methods compatible with management goals.

Background Information:

91. - 96. The BLM currently fights wildland fires under prescriptions that were formulated, in part, to minimize impacts to biological resources. If not already, these guidelines should be made available to County and City jurisdictions to ensure consistency, where applicable, in fire suppression activities. Suppression activities in the MGS Conservation Area should be somewhat more restrictive and resource protective than those outside the area. It appears that current management for the BLM has already considered means to reduce resource damage during fire fighting activities. The current situation for private fire stations is unknown.

Sheep and Cattle Grazing

Associated Threat: Livestock Grazing

Goal Statement from USFWS/CDFG: Establish and implement grazing management that is consistent with MGS conservation.

Applicable Jurisdictions: Portions of the MGS Conservation Area California City, Ridgecrest, Inyo County, Kern County, Los Angeles County, San Bernardino County, Indian Wells Valley Water District, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, and Bureau of Land Management.

Non-applicable Jurisdictions: Adelanto, Apple Valley, Barstow, Hesperia, Lancaster, Palmdale, Twentynine Palms, Victorville, Yucca Valley, Joshua Tree National Park, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, Edwards Air Force Base, Marine Corps Logistics Base at Nebo/Yermo, Marine Corps Air Ground Combat Center at Twentynine Palms.

● 97, 200. Measures applied by the CDCA Plan to govern sheep grazing within Tortoise habitat should also be applied throughout the MGS Conservation Area. These include the following:

- Allotments classified as ephemeral sheep operations will be managed under ephemeral authorizations. Authorizations will be issued after an interdisciplinary team, along with grazing operators involved, make a field examination of the allotment and determine whether production of 200 pounds per acre of dry weight will be available, except in the MGS Conservation Area, where a 350 pounds-per-acre requirement is specified.
- The allowable use would not exceed that which would leave an average of 350 pounds residual forage within the MGS Conservation Area at the end of the growing season.
- Turnout dates for sheep on ephemeral forage within the MGS Conservation Area will be determined by consultation with the grazing operator, BLM range conservationist, BLM wildlife biologist, and county agricultural extension agent. Turnout dates will be based on the emergence of the MGS (generally in late January or February) and availability of a minimum of 350 pounds per acre dry weight ephemeral forage.
- Grazing will be restricted to one pass by sheep in the MGS Conservation Area. Concentration areas for livestock will be designated, such as watering sites and sheep bedding areas.

When monitoring studies on key areas show over 50 percent use of key perennial species, [for the time being,], appropriate adjustments will be made to bring the use within carrying capacity. Initially, “key perennial species” will include winter fat (*Krascheninnikovia lanata*), spiny hopsage (*Grayia spinosa*) and saltbush species (*Atriplex* spp.). These are based on the research of Dr. Phil Leitner and may need to be changed under an adaptive management program if other perennial species are identified as being as important to MGS foraging ecology.

If BLM monitoring studies indicate that range conditions are not meeting standards, consider retiring ephemeral allotments covering those non-compliance areas during an *El Niño* event and subsequent year(s) to allow for recruitment of new perennial plants into that area.

- 98. The Plan should provide a mechanism for voluntary retirement of cattle allotments throughout the range

of the MGS.

- 102. Cattle grazing may occur in the MGS Conservation Area with adaptive prescriptions that protect the MGS and its habitats (e.g., variable management during drought years).
- 103. Supplemental feed (hay, alfalfa, etc.) and food supplements (nitrogen supplements like molasses) should not be allowed in the MGS Conservation Area.
- 104. The rancher should contact the BLM for range improvements requiring off-road use of equipment; routine maintenance should be restricted to existing roads; unreported off-road travel should be authorized to remove cattle carcasses (Reflects Current Management).
- 105. Herding of cattle should be minimized, and cattle allowed to disperse throughout the area of use. Water sources should be sparsely distributed and of sufficient number to minimize focused impacts.

Background Information:

97. CDFG has indicated that it wants to remove sheep grazing from the MGS Conservation Area.

98. The Plan should provide for the permanent conservation use of the Pilot Knob Allotment, which will benefit the MGS. Other cattle allotments in the MGS range include the Harper Lake Allotment, allotments west of Highway 14 in the Sierra foothills, an allotment in the Coso Range, and Lacy-Cactus-McCloud allotment on China Lake. No specific recommendations are made for closing these allotments.

102. No specific measures were determined by the regulatory agencies. One example mentioned, was minimizing grazing of cattle in the MGS Conservation Area during drought (although this action may effectively be part of current management, where cattle are not grazed during drought years because forage biomass thresholds are not being attained).

103. Dr. Hal Avery indicated that use of such materials effectively increases the appetites of cattle and may result in more impacts to native plant species than would occur without the use of these supplements. Need to ascertain if current management allows use of food supplements, and discourage their use where appropriate.

104. & 105. The evaluators understand that these two prescriptions are part of current management and should be continued under West Mojave Plan management.

Subsidized Predation

Associated Threat: Subsidized Predation

Goal Statement from USFWS/CDFG: Minimize/reduce subsidized predators from habitats managed for the MGS.

Applicable Jurisdictions: California City, Ridgecrest, Inyo County, Kern County, Los Angeles County, San Bernardino County, Indian Wells Valley Water District, and Bureau of Land Management.

Non-applicable Jurisdictions: Adelanto, Apple Valley, Barstow, Hesperia, Lancaster, Palmdale, Twentynine Palms, Victorville, Yucca Valley, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, Joshua Tree National Park, China Lake Naval Air Weapons Station,

Fort Irwin National Training Center, Edwards Air Force Base, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

- 108. Dogs off-leash accompanied by their owners would be allowed in all areas.

Background Information:

108. Dogs under control of their owners were not considered an impact to the MGS.

Mineral Development

Associated Threat: Mineral Development

Goal Statement from USFWS/CDFG: Minimize or eliminate adverse effects to the MGS Conservation Area.

Applicable Jurisdictions: California City, Ridgecrest, Inyo County, Kern County, Los Angeles County, San Bernardino County, Indian Wells Valley Water District, and Bureau of Land Management.

Non-applicable Jurisdictions: Adelanto, Apple Valley, Barstow, Hesperia, Lancaster, Palmdale, Twentynine Palms, Victorville, Yucca Valley, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, Joshua Tree National Park, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, Edwards Air Force Base, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

- 116. In the MGS Conservation Area, restoration under SMARA or other applicable laws should strive to reclaim lands to constitute MGS habitat as a goal.

- 118, 200. Identify areas for site-specific withdrawals from mineral entry to facilitate MGS conservation. If studies reveal an MGS source area that has been identified for mineral extraction but is not patented, consider mineral withdrawal for that specific location. Access for mineral development should be limited to designated open routes; alternatively, all exploratory activities should be monitored to minimize impacts to the vegetation community. Working with the monitor, the project proponent should eliminate any roads or cross country tracks that result from exploratory activities. The goal is to eliminate these tracks so that they are not used for future travel through the area.

Background Information:

116. This prescription reflects current management, in that lead agencies typically require mining operations to recontour mine pits, spoil piles, etc. to near-natural, pre-mining conditions. Additionally, revegetation is a standard requirement of mining reclamation plans. Under this prescription, the miner would be obligated to strive for recontouring and revegetation that would result, eventually, in viable habitats in the MGS Conservation Area.

118, 200. Under this prescription, the BLM is asked to consider the feasibility of mineral withdrawal (i.e., areas in which mining would not be allowed) in some, as of yet unidentified, portions of the MGS Conservation Area.

Non-Off-Highway Vehicle Recreation

Associated Threat: Non-Off-Highway Vehicle Recreation

Goal Statement from USFWS/CDFG: Minimize habitat disturbance and MGS mortality associated with non-OHV recreation.

Applicable Jurisdictions: California City, Ridgecrest, Inyo County, Kern County, Los Angeles County, San

Bernardino County, Indian Wells Valley Water District, and Bureau of Land Management.

Non-applicable Jurisdictions: Adelanto, Apple Valley, Barstow, Hesperia, Lancaster, Palmdale, Twentynine Palms, Victorville, Yucca Valley, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, Joshua Tree National Park, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, Edwards Air Force Base, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

- 120, 200. Inside the MGS Conservation Area, all vehicle camping, stopping, and parking should be restricted to previously disturbed areas within 50 feet of existing roads.
- 122. Hunting should be allowed and regulated by current legislation.
- 124. Non-consumptive recreation (e.g., hiking, birdwatching, horseback riding, and photography) should be allowed within the MGS Conservation Area.
- 125. Consider signing pertinent areas along the boundary of the MGS Conservation Area.

Background Information:

120. Currently, on BLM lands, vehicle camping is allowed within 300 feet of existing roads. Under this new prescription, vehicle camping would be allowed within only 50 feet of existing roads in the MGS Conservation Area and be limited to previously disturbed areas.

122. There was a consensus among the agencies that hunting regulations would remain in place, as governed by current legislation. It may be appropriate for educational materials, developed under other management prescriptions, to be distributed to hunters using the planning area.

124. There was a consensus among USFWS and CDFG that these activities would be permissible in the MGS Conservation Area.

125. The success of implementing management prescriptions may be enhanced by appropriate education, including a signing program. The desert user should understand that he/she is entering the MGS Conservation Area and that certain restrictions apply.

Invasive Weeds

Associated Threat: Invasive Weeds

Goal Statement from USFWS/CDFG: Minimize opportunities to spread weeds.

Applicable Jurisdictions: California City, Ridgecrest, Inyo County, Kern County, Los Angeles County, San Bernardino County, Indian Wells Valley Water District, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, and Bureau of Land Management.

Non-applicable Jurisdictions: Adelanto, Apple Valley, Barstow, Hesperia, Lancaster, Palmdale, Twentynine Palms, Victorville, Yucca Valley, Joshua Tree National Park, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, Edwards Air Force Base, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

- 126. Invasive weeds should not be used in landscaping adjacent to the MGS Conservation Area; i.e., African daisies along roadways.
- 127. Management prescriptions designed to minimize impacts associated with other threats, particularly OHV, grazing, fire, construction, etc. will assist in minimizing continued support of non-native species.

Background Information:

126. There are many plants that are known to be invasive to desert ecosystems that should be avoided in landscape design. Some of these have been published by the California Exotic Pest Plant Council and include tamarisk, giant reed, oleander, and Mexican fountain grass. The affected public, in conjunction with Dr. Jeff Lovich, Dave Magney, Tom Egan, and others, should develop a list of plants that should be avoided in landscape design in the MGS Conservation Area.

Commercial Uses

Associated Threat: Commercial Uses

Goal Statement from USFWS/CDFG: Ensure that harvesting does not alter the basic structure of the plant community; minimize adverse effects to the MGS and its habitats.

Applicable Jurisdictions: California City, Ridgecrest, Inyo County, Kern County, Los Angeles County, San Bernardino County, Indian Wells Valley Water District, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, and Bureau of Land Management.

Non-applicable Jurisdictions: Adelanto, Apple Valley, Barstow, Hesperia, Lancaster, Palmdale, Twentynine Palms, Victorville, Yucca Valley, Joshua Tree National Park, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, Edwards Air Force Base, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

- 131. Cross-country vehicle travel should not be allowed for commercial activities in the MGS Conservation Area.
- 132. Commercial activities, such as commercial filming within MGS habitat, that result in ground disturbance or adverse effects may be allowed in the MGS Conservation Area but only if construction measures applicable to temporary construction impacts are applied. Plant harvesting in MGS habitat should not be allowed within the MGS Conservation Area.

Background Information:

131. & 132. “Commercial Uses” refers mostly to plant harvest and commercial filming. “No cross-country travel” is consistent with prescriptions given elsewhere for a number of threats. As per prescription 132., filming and plant harvest would be allowed in all areas if no ground disturbance or adverse effect were associated with the activity. Otherwise authorized activities that do result in ground disturbance should not occur in the MGS Conservation Area.

Wild Horses and Burros

Associated Threat: Wild Horses and Burros

Goal Statement from USFWS/CDFG: None identified.

Applicable Jurisdictions: China Lake Naval Air Weapons Station.

Non-applicable Jurisdictions: Adelanto, Apple Valley, Barstow, California City, Ridgecrest, Inyo County, Kern County, Los Angeles County, San Bernardino County, Indian Wells Valley Water District, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, Bureau of Land Management, Hesperia, Lancaster, Palmdale, Twentynine Palms, Victorville, Yucca Valley, Joshua Tree National Park, Marine Corps Logistics Base at Nebo/Yermo, Marine Corps Air Ground Combat Center at Twentynine Palms, Fort Irwin National Training Center, and Edwards Air Force Base.

- 200. China Lake's environmental managers are working with the BLM to remove burros from the last places they occur on the installation. Such removal will likely benefit the MGS where it occurs. No additional measures identified.

Background Information:

200. The evaluators understand from environmental management at China Lake (Tom Campbell, pers. comm.) that the Navy is working cooperatively with the BLM to remove all remaining burros from the installation. It is our understanding that these are the last burros remaining within the MGS range.

Drought (Relative to MGS Studies)

Associated Threat: Drought

Goal Statement from USFWS/CDFG: During drought, minimize stress and other adverse effects to the MGS that may not occur under normal conditions.

Applicable Jurisdictions: California City, Ridgecrest, Inyo County, Kern County, Los Angeles County, San Bernardino County, Indian Wells Valley Water District, State Lands Commission, State Department of Parks and Recreation, California Department of Fish and Game, Bureau of Land Management, China Lake Naval Air Weapons Station, Fort Irwin National Training Center, and Edwards Air Force Base.

Non-applicable Jurisdictions: Adelanto, Apple Valley, Barstow, Hesperia, Lancaster, Palmdale, Twentynine Palms, Victorville, Yucca Valley, Joshua Tree National Park, Marine Corps Logistics Base at Nebo/Yermo, and Marine Corps Air Ground Combat Center at Twentynine Palms.

- 145, 200. Focused MGS trapping studies should be performed along the northern boundary of the planning area in the Kern County portion of the Antelope Valley. Other field research designed to address questions regarding the biology of native species or regarding impacts of land-use practices on these species should be allowed in the MGS Conservation Area.

Background Information:

145. The Kern County study is intended to determine if the MGS still occurs in northern portions of the Antelope Valley, south of the Tehachapis. A MGS Technical Advisory Committee is considering MGS studies that may be appropriate for managing MGS in the Plan area. Identification of plants and habitats used by the MGS to persist through drought conditions should be a high priority.